BI-MONTHLY PROGRESS REPORT
UNIVERSITY OF ALASKA
ERTS PROJECT 110-7
SEPTEMBER 30, 1973

A. TITLE OF INVESTIGATION: Application of ERTS-1 imagery to the study of caribou movements and winter dispersal in relation to prevailing snowcover.

B. PRINCIPAL INVESTIGATOR/GSFC ID: Peter C. Lent/U682

C. PROBLEMS IMPEDING INVESTIGATION: None.

D. PROGRESS REPORT:

1. Accomplishments during the reporting period: Detailed ground truth data on vegetative characterization were obtained at eleven sites comprising caribou range in northeast Alaska. Data for each site include density, composition and size of trees (if any), percent cover, composition, and browse index for tall shrubs, percent cover, and composition of low ground cover, soil samples, and aerial photos of test sites. Test sites were pre-selected for uniformity of vegetation through analysis of existing aerial photography and aerial reconnaissance. Data were obtained at the following sites:

   a. Open spruce forest area southwest of Vettatrin Lake
   6829N;14508W

   b. Wet lowland birch-willow shrub area south of Vettatrin Lake
   6829N;14508W

   c. Open spruce forest area southeast of Old John Lake
   6802N;14454W

   d. Open spruce forest area in the Junjik Valley
   6823N;14538W

   e. Treeless bog in the Junjik Valley
   6824N;14537W

   f. Upland birch-willow heath south of Windy Lake
   6801N;14511W

   g. Dry lowland birch-willow shrub area on a peninsula of Old John Lake
   6804N;14458W

   h. Alpine tundra area southwest of porcupine Lake
   6847N;14632W

   i. Upland birch-willow heath near the headwaters of Deadman Creek
   6821N;14555W

j. 1969 spruce forest burn area in the lower Sheenjek Valley
6649N;14422W

k. Unburned closed spruce forest area in the lower Sheenjek Valley
6649N;14424W

2. PLANS FOR NEXT REPORTING PERIOD: CDU compatible tapes will be produced for selected portions of Spring 1973 ERTS scenes. These CDU tapes will receive preliminary analysis on the CDU to determine the approximate density levels present. Next, a digital printout will be produced and analysed to determine capacity for consistent differentiation between snowcover disturbances caused by caribou winter feeding activity, undisturbed snowcover, and actual bands of animals. Additionally, the spectral character of each feature will be defined as precisely as possible from ERTS MSS digital data. Similar procedure will be followed for the interpretative application of vegetation data obtained during the past summer. Analytic goals will be evaluation of capability for consistent differentiation between open spruce forest, closed spruce forest, upland birch-willow heath, lowland birch-willow, treeless bog, alpine tundra, and recent forest fire areas. After obtaining a definitive statement of differentiating capability and multispectral density charateristics for each feature, feature enhanced displays will be produced on the CDU for use in feature mapping.

E. SIGNIFICANT RESULTS: None

F. PUBLICATIONS: None

G. RECOMMENDATIONS: None

H. CHANGES IN STANDING ORDER FORM: None

I. ERTS IMAGE DESCRIPTORS FORM: Attached

J. DATA REQUEST: September 30, 1973

ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

NDPF USE ONLY
D
N
ID

DATE Sept 30, 1973

PRINCIPAL INVESTIGATOR Peter C. Lent

GSFC U682

ORGANIZATION Alaska Cooperative Wildlife Research Unit

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	River	Lakes	Forest	
1353 20380 M	✓	✓	✓	Old forest fire burn
1376 21060 M		X		Alpine tundra
1389 20373 M	✓	✓	✓	Forest fire burn area
1407 20371 M	✓	✓	✓	Forest fire burn

*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

MAIL TO ERTS USER SERVICES
CODE 563
BLDG 23 ROOM E413
NASA GSFC
GREENBELT, MD. 20771
301-982-5405

GSFC 37-2 (7/72)